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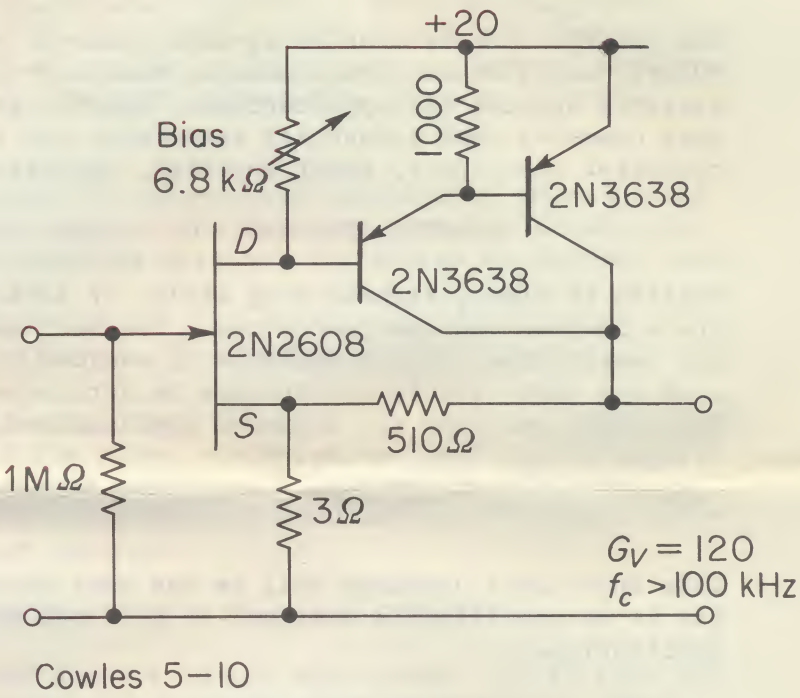
All The Practical, On-The-Job Short-Cuts You Need

For Analyzing and Designing Transistor and Field-Effect Circuits

...All In One
Easy-To-Use Handbook

TRANSISTOR CIRCUITS
AND APPLICATIONS
by Laurence G. Cowles

"...few authors come to the subject so well informed and with such a thorough background in transistor circuit design."



Cowles 5–10

NOW YOU CAN--

* USE new and proven, but uncomplicated, methods for simplifying your circuit analysis and feedback calculations

* GET better and more specific performance attributes you want

* PREPARE yourself easily, quickly and thoroughly for either applications engineering or for advanced transistor circuit design engineering

Here are hundreds of simple short-cuts and proven design techniques to save you time and effort in your daily applications.

You get practical, easy-to-use techniques for simplifying circuit analysis and feedback calculations by using only those parameters that are really important. You're shown the quickest and easiest methods for working with gain and impedance calculations, feedback biasing, and FET amplifiers. You also get crystal-clear, uncomplicated explanations of single-stage, multi-stage, and power amplifiers, oscillators, switching and logic circuits, regulators, thyristors, and tunnel diodes, to name just a few.

PRACTICAL INFORMATION FROM COVER TO COVER

Not a word is wasted on abstract theory or irrelevant physics (math level is simple -- high school algebra, no calculus). Gives you simple, straight-forward treatment of FET devices, voltage gain and feedback calculations, active filters, tuned amplifiers, and the Miller effect. What's more, you get scores of practical, carefully-tested circuits, all using improved and inexpensive semiconductors currently in mass production.

Pre-publication reviewers say:

"Mr. Cowles work is authoritative and remarkably free from error. As pointed out in (other) reviews, he knows his subject well...few authors come to the subject so well informed and with such a thorough background in transistor circuit design."

"...one is immediately aware of his understanding and ability to get to the heart

of the subject. He writes clearly, patiently and economically."

COMPLETE AND UP-TO-DATE

You get the latest, most up-to-date facts on synchronous detection, FET switches, MOS-FET oscillators, semiconductor modulators, square wave testing, and negative resistance devices and applications. Quickly gives you a clear understanding of all the most commonly used industrial transistor and field-effect circuits, as well as semiconductor rectifiers, power supplies, regulators, and special-purpose devices.

QUICKLY AND EASILY GIVES YOU A THOROUGH UNDERSTANDING

Written in clear, step-by-step style, it lets you quickly master every aspect of solid state devices and semiconductors. Feedback and biasing are clearly and simply explained, and complicated circuit analysis is avoided by recognizing that feedback is universally used and that circuit performance is determined by the feedback resistors. You get EVERYTHING you need for improved applications engineering and for advanced transistor circuit design engineering.

WILL GIVE YOU YEARS OF DEPENDABLE SERVICE

This invaluable handbook will be the most useful tool on your desk for years to come, for it is specifically designed to give you practical, on-the-spot help in your daily applications.

> Written by a practicing transistor circuit designer--an expert who is well aware of your on-the-job needs and problems--this non-theoretical manual gives you all the shortcuts and proven design techniques to save you time and effort in all your applications of transistor and field-effect circuits.

...And since you'll know the "why" as well as the "how" of circuitry, you'll be able to master immediately any future developments in design or equipment.

AND THAT'S NOT ALL, BY ANY MEANS!

...THE BOOK ALSO:

** Presents the equation for the input impedance of a transistor without solving a pair of simultaneous equations and without hybrid parameters

** Describes practical single-stage amplifiers with the component values given

** Introduces the transistor gain-impedance relation and shows its broad value for simplifying transistor circuit calculations

** Clearly describes single-stage FET amplifiers, fully explains voltage gain and feedback calculations, and quickly shows you how to determine that an amplifier has sufficient feedback

** PLUS MUCH, MUCH MORE!

SCORES OF EXAMPLES, EXPERIMENTS AND PRACTICE PROBLEMS

You get clear, easy-to-follow examples of active filters, tuned amplifiers, and the Miller effect. You're shown exactly how operational amplifiers perform integration, differentiation, and analog computations. You'll also know how to use the latest transistor devices in direct-coupled pairs and in closely coupled arrays. And to solidly reinforce everything you learn, the manual gives you stimulating practice problems at the end of every chapter.

...And what's more, you get an entire chapter of experimental techniques which enable a quick and thorough understanding of every topic. And the many circuits illustrated throughout the book--all carefully tested--provide material for scores of further experiments.

USES SIMPLE HIGH SCHOOL ALGEBRA--NO CALCULUS

Circuit theory and the algebra of the gain--impedance relations in transistor amplifiers are avoided by examining a circuit to find the stage current gains and applying simple rules and calculations. Concern for transistor temperature problems is minimized by using circuits that employ improved devices and exhibit the advantages of planar transistors and the latest type of field-effect devices.

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Simply fill out the handy postpaid card and drop it in the mail today. We'll rush you a copy of TRANSISTOR CIRCUITS AND APPLICATIONS for a 15-day free examination. When you see for yourself just how useful this invaluable book is you may send us your check for the indicated price and its yours. And if you're not 100% pleased, just send the book back and pay nothing, owe nothing.

Sincerely yours,

Steven T. Landis

Steven T. Landis

ABOUT THE AUTHOR

Laurence G. Cowles is Senior Electronics Engineer at the Superior Oil Company (Geophysical Laboratory), Bellaire, Texas. Mr. Cowles developed many of his unique methods of transistor circuit analysis (featured in this book) while conducting private industrial courses in Transistor Circuit Engineering. He has contributed papers on vacuum tubes, circuit theory, and transistor applications to leading professional journals such as Geophysics, Electronic Equipment Engineering, and Electronic Design. He is a former member of the technical staff of Bell Telephone Laboratories and was a Geophysical Development Engineer at the Texaco Research Laboratory, Houston, Texas. He has served as an industrial consultant, and as Visiting Lecturer at Rice University.

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Every page of this ready-reference handbook is packed with practical short-cuts and work-saving pointers. For instance,

Chapter 2 shows how to work out the equation for the input impedance of a transistor without solving a pair of simultaneous equations and without hybrid parameters.

Chapter 3 gives you a crystal-clear understanding of feedback and feedback biasing. You're given (1) the resistor values required for emitter feedback, (2) the gain and impedance characteristics of a stage, and (3) a practical way to set the Q-point bias.

Chapter 10 gives you complete, easy-to-follow examples of active filters, tuned amplifiers, and the Miller effect. It also shows how operational amplifiers perform integration, differention, and analog computations.

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